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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/509,060

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Fernande Boisson

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EXAMINER

ZIMMER, MARC S

ART UNIT

PAPER NUMBER

1712

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,060	<b>Applicant(s)</b> BOISSON ET AL.	
	<b>Examiner</b> Marc S. Zimmer	<b>Art Unit</b> 1712	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 September 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 13-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Objections***

Claims 13-70 are objected to because the language of claim 13 is easily misunderstood particularly given that neither the POS resin nor the polysiloxane bearing functional groups, POSf, is especially well-defined. In particular, the claim is confusing where the fundamental step of the process is disclosed because the POS is not easily differentiated from the POSf. In the context of the Specification, it seems evident that the POS and POSF are different compounds yet the phrase "redistributing POS resins with POSf bearing functional groups" sounds like a single compound if for no other reason than the article "a" should appear before mention of the "POSf". Applicant is strongly encouraged to amend the claims in the following fashion replacing the aforementioned phrase with,

"...comprising conducting a redistribution reaction between a POS resin and a POSf compound."

Applicant is not required to employ precisely this language but the Examiner submits that some similar amendment should be offered to clarify what is essentially the primary step of the process.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13-70 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

First, Applicant characterizes the variable "Y" mentioned in the definitions of the various repeat units that comprise the polymer product as "representing a functional group Y". This clearly does not help the practitioner ascertain what is the scope of this claim. Indeed, even hydrocarbon groups may be functional groups under the right conditions but the Examiner does not believe that hydrocarbon groups, and perhaps other chemical moieties, are intended to have been embraced by this limitation. Applicants should insert the limitations of claim 16 into claim 13 to fully define their invention. (Applicant should then identify how this impacts claims 20, 24, 43, 59, and the claims dependent therefrom.)

Claim 13 is also problematic because it first says of the catalyst that the variable "A" can represent a methylene group. Thereafter, the claim identifies three specific embodiments of the catalyst but it is not clear whether these are supposed to represent all permutations of a suitable catalyst as envisaged by Applicant, or simply preferred catalysts.

Finally, the Specification would suggest that the catalyst is one that is supported on the surface of a nonbasic filler but the claims say only that the catalyst is "in the presence of" a nonbasic filler. There are not equivalent scenarios and the claims should be amended if, in fact, Applicant had intended only that the catalyst is supported by the

filler. For the purpose of evaluating the claimed invention against the prior art, both scenarios will be considered.

Claims 18, 47, and 60 are further rejected because the endgroups are undefined leaving the possibility of block copolymers and all manner of other possibilities.

Claims 37-54 are further rejected because, again, there does not appear to be adequate antecedent basis in claim 13 for the catalyst being supported on the inert filler.

Claims 63-66, 69, and 70 are further rejected because the process by which radicals Y<sup>1</sup> are grafted onto the radicals Y is ill-defined. Is Applicant referring to a crosslinking reaction between molecules bearing Si-C=C groups and molecules bearing Si-H groups? Alternatively, is Applicant referring to a broader meaning wherein molecules bearing Si-C=C groups and molecules bearing Si-H groups are modified by way of a hydrosilylation reaction with any compound bearing Si-H groups or Si-C=C groups respectively? Whatever the case, Applicant is required to identify where the intended meaning is properly supported by the Specification.

### ***Claim Analysis***

Because the claimed product is one that necessarily contains Q units, it has been presumed that the POS resin is one that, likewise, must contain Q units. Indeed, this is what the Specification indicates. In the Examiner's estimation, Applicant should amend claim 13 to fully define the POS resin just as it has been submitted that the description of the POSf compound should be expanded by incorporating the limitations of claim 16.

### ***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinsztajn et al., U.S. Patent # 5,510,430 in view of Bordone et al., WO01/44349. U.S. Patent # 6,737,495 is used as a faithful translation of WIPO document.

Rubinsztajn discloses a method of modifying an MQ resin by carrying out an equilibration polymerization involving (i) an organosilicon compound comprising M units that feature hydrosilyl groups, alkenyl moieties, aryl groups, or haloalkyl groups and (ii) an MQ resin having a specified M content (column 2, lines 16-24). Among the catalysts advocated for promoting the reaction is triflic acid (column 2, lines 50-51). There is, however, no indication that the catalyst is placed on a support.

Bordone, like Rubinsztajn, describes the preparation of polysiloxanes via an equilibration/redistribution approach but doesn't contemplate using a reactant containing Q units. Further, Bordone teaches the utilization of precisely the same catalysts as are presently claimed (column 5, lines 10-23 and 38-45). Preferred amounts of the catalyst are those outlined in column 6, lines 1-3. Bordone advocates using the supported catalysts described therein in lieu of free triflic acid for the reasons provided in column 5, lines 4-9. Insofar as these same disadvantages would be expected were the reactions taught by Rubinsztajn to be carried out using triflic acid, it would have been obvious to one of ordinary skill to substitute supported triflic acid or one of the supported

triflic acid derivatives per the teachings of Bordone for free triflic acid in the Rubinsztajn system. A further advantage that will be immediately conceived by one of ordinary skill is the opportunity for easy recovery of the catalyst for re-use.

Claim 15 is rejected because it further limits a permutation of the invention embraced by claim 14 that did not represent the Examiners foundation for rejection.

Concerning claims 63-66, neither of the references expressly mention in what capacity the products prepared therein will be used. Nevertheless, the Examiner takes notice of the fact that, in virtually all instances, with the possible exception of perhaps dehydrocondensation reactions, the hydrosilyl groups on polysiloxanes are nearly always exploited for the introduction of other functional groups by way of hydrosilylation with an ethylenically unsaturated compound. Likewise, alkenyl groups on a polysiloxane are usually only exploited for one of two reactions: (a) copolymerization of the alkenyl-functional POS with other vinyl monomers, or (b) modification of the POS by way of hydrosilylation involving the alkenyl-substituted POS and a compound bearing hydrosilyl groups and another functional group.

Claims 13-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al., U.S. Patent # 5,527,873 in view of Bordone et al., WO01/44349.

Kobayashi is yet another disclosure that describes reacting a polysiloxane resin containing Q units (paragraph bridging columns 2 and 3) with an oligomeric polysiloxane (column 3, lines 62-67). As before, trifluoromethanesulfonic acid is mentioned as a suitable catalyst in column 3, lines 29-30. It would be obvious to modify

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Kobayashi's invention in precisely the same manner as was proposed before with the invention taught by *Rubinsztajn*.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 71-75 are rejected under 35 U.S.C. 102(b) as being anticipated by Bordone et al., WO01/44349. These same catalysts are described in column 5.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).



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Claims 13, 16-18, 20, 26, 28-29, 31, 37, 41, 43, 45, 55, 58, 61-64, and 67 are provisionally rejected on the ground of nonstatutory double patenting over claims 12-34 of copending Application No. 10/509071. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter. The only difference in scope between the instant claims and those of the co-pending application is that the present claims contemplate an additional embodiment of the catalyst not mentioned in the co-pending claims. In particular, the variable "A" in formula (I) of present claim 13 may denote a methylene group and no such permutation is contemplated by the co-pending claims.

Dittrich et al., U.S. patent # 5,919,883 is another reference that discloses the formation of polysiloxanes bearing functional groups by exploiting a perfluoroalkylsulfonic acid-catalyzed equilibration reaction. There is, however, only cursory mention that one of the reacting polysiloxane polymers may contain Q units and, a rejection using this rejection would serve only to reject the same claims as are presently rejected.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 19, 2006

  
MARC S. ZIMMER  
PRIMARY EXAMINER